

## Deployable Solar Energy Generators for Deep Space Cubesats, Phase I

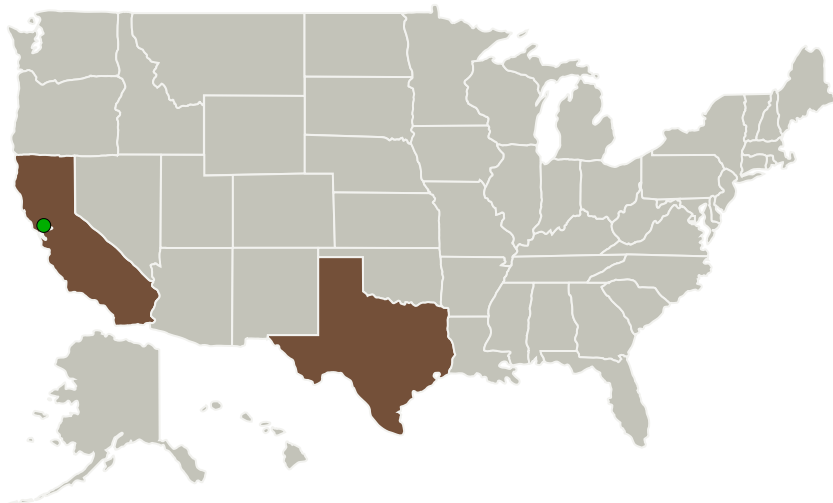
Completed Technology Project (2014 - 2014)



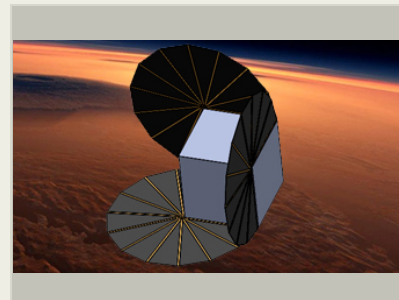
## Project Introduction

Cubesats require highly compact technologies to maximize their effectiveness. As cubesats are expected to be low-cost and, relative to the space industry, mass produced, their technologies should be simple to manufacture, yet achieve aerospace quality standards. This proposal aims to describe a novel high-efficiency (i.e., comparable to solar panels) fabricated power supply for cubesats and other small satellites that has marked advantages over solar photovoltaic cells. Nanohmics Inc. proposes to develop and test a compact, high efficiency solar thermoelectric generator. The technology is amenable to mass manufacturing and is based on recent development successes at Nanohmics: thermoelectrics development and coatings to maximize emissivity. On a space vehicle, the energy generator would be deployable in a number of ways including a folding fan-like unpacking or other compact designs.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Nanohmics, Inc.	Lead Organization	Industry	Austin, Texas
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California



Deployable solar energy generators for deep space cubesats Project Image

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## Primary U.S. Work Locations

California

Texas

## Project Transitions

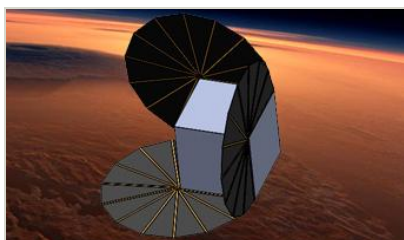
**June 2014:** Project Start

**December 2014:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137431>)

## Images



### Project Image

Deployable solar energy generators for deep space cubesats Project Image  
(<https://techport.nasa.gov/image/130802>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Nanohmics, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

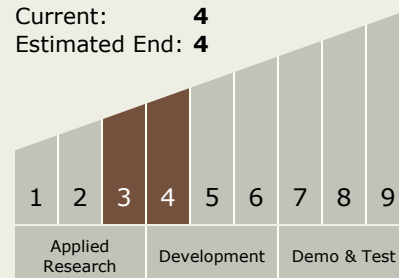
Steve Savoy

## Technology Maturity (TRL)

Start: **3**

Current: **4**

Estimated End: **4**



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## Technology Areas

### Primary:

- TX03 Aerospace Power and Energy Storage
  - └ TX03.1 Power Generation and Energy Conversion
    - └ TX03.1.1 Photovoltaic

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System